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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,478	07/24/2003	Kazuhito Shimoda	S1459.70054US00	1282

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EXAMINER	
CRUZ, MAGDA	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/626,478	SHIMODA, KAZUHITO	
	Examiner	Art Unit	
	Magda Cruz	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-5,8-13,15-23,25-27,30-35 and 37-44* is/are rejected.

7)☒ Claim(s) *2,6,7,14,24,28,29 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 5-7 and 27-29 are objected to because of the following informalities: The examiner believes the term "Nb2O5" stands for - - Nb_2O_5 - - , "TiO2" stands for - - TiO_2 - - , "Ta2O5" stands for - - Ta_2O_5 - - , "Al2O3" stands for - - Al_2O_3 - - and "SiO2" stands for - - SiO_2 - -. If this is correct, the applicant is requested to acknowledge this. If the term stands for something else, clarification is required.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 8-12, 23 and 30-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohsako et al.

Ohsako et al. (US 2004/0061935 A1) discloses a projection screen (10) and the method for manufacturing said projection screen (page 4, paragraphs 0054 and 0055), comprising a substrate (11); a light selective reflection layer (12) which is formed on one side of the substrate (11), which has the reflection characteristics in relation to lights in specific wavelength bands, and which has the absorption characteristics in relation to lights other than the lights in the specific wavelength bands (page 1, paragraph 0013, lines 8-11); wherein the substrate (11) is made of polymeric materials (page 2, paragraph 0033, lines 5); wherein the polymeric materials are chosen from a group consisting of polycarbonate, polyethylene terephthalate, polyethylene naphthalate, polyether sulfone, and polyolefin (page 2, paragraph 0033, lines 3-5); wherein a light diffusion layer (13) is provided on the light selective reflection layer (12) on a side opposite to the substrate (11); wherein a light diffusion part (13), having a plurality of convex parts (12A, 11A) or a plurality of concave parts is provided on the surface where the light selective reflection layer (12) is formed on the substrate (11); wherein the specific wavelength bands include each wavelength band of red light, green light, and blue light (page 3, paragraph 0035, lines 6-13). A method of manufacturing a projection screen (page 4, paragraphs 0054 and 0055), comprising a step of forming a light selective reflection layer having the reflection characteristics in relation to specific wavelength bands (page 4, paragraph 0055, lines 5-14) and having the absorption characteristics in relation to the lights other than the specific wavelength bands lights

(i.e. three primary colors wavelengths bands) on a substrate (31) by using spattering (page 4, paragraph 0055, lines 1-2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3-5 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsako et al. in view of Sinkoff.

Ohsako et al. (US 2004/0061935 A1) teaches the salient features of the present invention, except an optical multilayer film made by alternately layering metal films, wherein the metal films are made of Nb, Al, or Ag. However, Ohsako et al. discloses an optical multilayer film (12) made by alternately layering films (12H, 12L...) and dielectric films (page 2, paragraph 0034, lines 1-6), wherein the dielectric films are made of Nb_2O_5, TiO_2, Ta_2O_5, Al_2O_3, or SiO_2 (page 2, paragraph 0034, lines 7-12).

Sinkoff (US Patent Number 6,724,529 B2) discloses an optical multilayer film (30) made by a metal film (20), wherein the metal film is made of Nb, Al, or Ag (column 4, lines 32-34).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the metal film disclosed by Sinkoff in combination with Ohsako et al.'s optical multilayer film, for the purpose of having a projection screen with

excellent reflection directivity which produce a reflected image having a superior gain contrast (page 1, lines 10-12).

7. Claims 13, 18-22, 35 and 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsako et al. in view of Sekiguchi.

Ohsako et al. (US 2004/0061935 A1) teaches the salient features of the present invention, except an angle correction layer which is formed on the light selective reflection layer on the a side opposite to the substrate, wherein the angle correction layer is processed in the shape of a Fresnel lens. However, Ohsako et al. discloses a layer (12), which allows lights (i.e. incident light) to enter in a direction perpendicular to the surface of the light selective reflection layer (Figure 3) and wherein the substrate (11) is black and has a function as a light absorption layer (page 4, paragraph 0054, lines 1-4).

Sekiguchi (US Patent Number 6,707,605 B2) discloses an angle correction layer (50), which is formed on the light selective reflection layer on the side opposite to the substrate (52), wherein the angle correction layer is processed in the shape of a Fresnel lens (column 3, line 46).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the angle correction layer disclosed by Sekiguchi in combination with the light selective reflection layer from Ohsako et al.'s invention, for the purpose of providing a transmission type projection screen which can be easily held and exhibits less conspicuous double image (column 2, lines 13-16).

8. Claims 15-17 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsako et al. in view of Sekiguchi as applied to claims 13, 18-22, 35 and 40-44 above, and further in view of Sinkoff.

Ohsako et al. (US 2004/0061935 A1) in combination with Sekiguchi (US Patent Number 6,707,605 B2) teaches the salient features of the present invention, except a light selective reflection layer made of solvent materials and wherein the solvent materials comprising the light selective reflection layer is are cured by heating or illuminating ultraviolet. However Ohsako et al. discloses a light selective reflection layer (12) which is an optical multilayer film made by alternately layering high refractive index films and low refractive index films having lower refractive indices than that of the high refractive index films (page 2, paragraph 0034).

Sinkoff US Patent Number 6,724,529 B2) discloses a light selective reflection layer (50, 60) made of solvent materials (column 5, lines 19-21) and wherein the solvent materials comprising the light selective reflection layer are cured by heating or illuminating ultraviolet (column 5, lines 22-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the light selective reflection layer disclosed by Sinkoff in combination with Ohsako et al. and Sekiguchi's invention for the purpose of increasing the viewing angle of the reflected image such that the image can be seen from a wide angle relative to a line representing a projected image light ray or wave projected to the screen (column 4, lines 40-44).

Allowable Subject Matter

9. Claims 2, 6-7, 14, 24, 28-29 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

A projection screen wherein the light selective reflection layer has absorptance of 80% or more in relation to the lights other than the lights in the specific wavelength bands (claim 2 and 24), wherein the light selective reflection layer is made by sequentially layering a first metal film made of Nb, a first dielectric film made of Nb_2O_5, a second metal film made of Nb, and a second dielectric film made of Nb_2O_5 (claims 6 and 28), wherein the light selective reflection layer is made by sequentially layering a first metal film made of Al, a first dielectric film made of Nb_2O_5, a second metal film made of Nb, and a second dielectric film made of Nb_2O_5 (claims 7 and 29), and a transmittancy of 80% or more in relation to at least the lights in a visible wavelength band other than the lights in the specific wavelength bands (claims 14 and 36), cannot be made inherent or obvious by the prior art of record.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimoda et al. (US 2004/0150883 A1) discloses a projection screen and manufacturing method thereof.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (571) 272-2114. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RODNEY FULLER
PRIMARY EXAMINER

Magda Cruz
Patent Examiner
January 18, 2005